

REMARKS

Applicant respectfully thanks the Examiner for indicating the allowable subject matter of claims 17-19, 25-27, and 30. Though no amendments have been made to the claims, for the Examiner's convenience, Applicant respectfully lists the claims above.

Claim Rejections Under 35 U.S.C. §102

Claims 12-15, 20-22, 28, and 29 are rejected as being anticipated under 35 U.S.C. 102(b) by U.S. Patent No. 5,080,495 to Hashimoto (hereinafter "Hashimoto"). Applicant respectfully traverses.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Claim 12 recites, *inter alia*,

"subjecting a surface region of an object, whose thermal diffusivity (α_m) has to be determined, to a modulated laser beam or to a modulated beam of a similar heating source while providing a signal (MLS) thereof, a heated spot or area of the surface of the object having a definitive diameter and a fixed intensity distribution profile...[and] providing a signal (MTS) proportional to a temperature on the heated spot or area."

Referring to the first underlined section of the above portion of claim 12, Applicant respectfully asserts that Hashimoto does not teach subjecting a surface of an object to a *modulated laser beam or modulated beam of a similar heating source*. In fact, Hashimoto does not a modulated laser beam or modulated beam of a similar source at all. Instead, referring to column 6, lines 45-48, and Figures 2-3 of Hashimoto "an AC current is applied to an AC heater 2 by means of a generator 4 of modulated AC current. Applicant respectfully asserts that an AC current is not an equivalent of a modulated laser beam or modulated beam of a similar heating source, as is recited in Applicant's claim 12. As such, for at least this reason, Hashimoto does not teach every element of Applicant's claim 12.

Referring now to the second underlined section of the above portion of claim 12, Applicant respectfully asserts that Hashimoto does not teach providing a response signal (MTS) proportional to a temperature *on the heated spot or area*. Instead, referring to column 6, lines 45-59 of Hashimoto, a response signal is provided that is proportional to a temperature on a resistance thermometer 3, which is located at a side of the heater 2 that is opposite of the heated area (please see the positions of the AC heater 2 and resistance thermometer 3 in Figures 2 and 3). As such, Applicant respectfully asserts that Hashimoto does not teach provision of a response signal (MTS) proportional to a temperature on the heated spot or area. For at least this additional reason, Hashimoto does not teach every element of Applicant's claim 12.

Applicant also respectfully notes that Hashimoto relies on propagation of thermal waves in a thickness of the sample, wherein these thermal waves are one-dimensional. On the contrary, an exemplary embodiment of Applicant's disclosure teaches three-dimensional propagation of thermal waves from a heated spot on the surface of the bulk sample.

Furthermore, Applicant's claim 28 recites *inter alia*,

"a laser device or a similar heating source whose beam is directed towards a region or spot on a surface of said object...[and] a means for generating a signal (MTS) corresponding to a modulated temperature of the region or spot struck by the modulated beam."

As such for the same reasons as discussed with reference to claim 12, Hashimoto also does not teach every element of Applicant's claim 28. Accordingly, Applicant respectfully submits that Hashimoto does not anticipate Claims 12 and 28. Applicant further respectfully submits that Claims 12 and are is not additionally objected or rejected, and is thus allowable. Claims 13-15, 20-22, and 29 are also rejected in view of Hashimoto. However, these claims variously depend from allowable Claims 12 and 28, and are thus correspondingly allowable. Reconsideration, entry of the amendment and allowance of Claims 12-15, 20-22, 28, and 29 are thus respectfully requested.

Claim Rejections Under 35 U.S.C. §103

Claims 16 and 24 are rejected under 35 U.S.C. 103(a) as being obvious over Hashimoto in view of U.S. Patent No. 6,260,997 to Claybourn (hereinafter “Claybourn”). Claim 23 is rejected under 35 U.S.C. 103(a) as being obvious over Hashimoto in view of U.S. Patent No. 4,928,254 to Knudsen (hereinafter “Knudsen”).

To establish a *prima facie* case of obviousness, it is known that three basic criteria must be met: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) there must be a reasonable expectation of success; and (3) the prior art reference(s) must teach or suggest all the claim limitations. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d 1016, 1023 (Fed. Cir. 1996).

Dependent claims inherit all of the limitations of the parent claim. Claims 16, 23, and 24 variously depend from Claim 12. As discussed above, Hashimoto at least does not disclose, “subjecting a surface region of an object, whose thermal diffusivity (α_m) has to be determined, to a modulated laser beam or to a modulated beam of a similar heating source while providing a signal (MLS) thereof, a heated spot or area of the surface of the object having a definitive diameter and a fixed intensity distribution profile...[and] providing a signal (MTS) proportional to a temperature on the heated spot or area,” as is recited in Claim 12. Claybourn and Knudsen also do not teach these limitations as claimed, and thus, do not remedy the deficiencies of Hashimoto.

Therefore, the proposed combinations of Hashimoto and Claybourn and Hashimoto and Knudsen *do not teach or suggest all of the limitations* of Claims 16, 23, and 24. Thus, *prima facie* obviousness does not exist regarding Claims 16, 23, and 24 with respect to the Hashimoto, Claybourn, and Knudsen patents.

Accordingly, Applicants respectfully submit that for at least the reasons set forth hereinabove, Claims 16, 23, and 24 are not obvious over the proposed combinations of Hashimoto and Claybourn and Hashimoto and Knudsen. Reconsideration and allowance of Claims 16, 23, and 24 are respectfully requested.

Conclusion

All of the objections and rejections are herein overcome. In view of the foregoing, it is respectfully submitted that the instant application is in condition for allowance. No new matter is added by way of the present Remarks. Prompt issuance of Notice of Allowance is respectfully requested.

The Examiner is invited to contact Applicants' attorney at the below listed phone number regarding this response or otherwise concerning the present application.

Applicants hereby petition for any necessary extension of time required under 37 C.F.R. 1.136(a) or 1.136(b) which may be required for entry and consideration of the present Reply.

If there are any charges due with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicants' attorneys.

Respectfully submitted,

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